

Fortron® 0214

Polyphenylene Sulfide

Celanese Corporation

Message:

0214 is an unfilled grade exhibiting good melt strength. This grade demonstrates excellent heat and chemical resistance. It can be extruded to produce multi-filaments. Due to the excellent balance of flow and melt strength, this product is occasionally used for injection molding parts. Available standard in powder (0214B1), pellet (0214P1) and crystallized pellet (0214C1) form.

General Information			
Features	Good liquidity		
	Good melt strength		
	Good chemical resistance		
	Heat resistance, high		
Uses	Filament		
RoHS Compliance	Contact manufacturer		
Forms	Powder		
	Particle		
Processing Method	Injection molding		
Multi-Point Data	Isochronous Stress vs. Strain (ISO 11403-1)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.35	g/cm ³	ASTM D792, ISO 1183
Specific Volume	0.741	cm ³ /g	ASTM D792
Viscosity	120	Pa · s	Internal method
Density of Melt	1.150	g/cm ³	Internal method
Specific Heat Capacity of Melt	1830	J/kg/°C	Internal method
Temperature	310	°C	Internal method
Molding Shrinkage			
Flow	1.2	%	ASTM D955
Transverse flow	1.0	%	ASTM D955
Vertical flow direction	1.5 - 1.8	%	ISO 294-4
Flow direction	1.2 - 1.5	%	ISO 294-4
Water Absorption (Saturation, 23°C)	0.020	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
Class m	93		ASTM D785
M scale	95		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3800	MPa	ISO 527-2/1A/1
Tensile Strength			

Fracture, 23°C	86.2	MPa	ASTM D638
Fracture	90.0	MPa	ISO 527-2/1A/5
Tensile Elongation			
Fracture, 23°C	3.0	%	ASTM D638
Fracture	3.0	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	3750	MPa	ISO 178
Flexural Stress ¹	125	MPa	ISO 178
Coefficient of Friction (vs. Steel - Dynamic)	0.14		Internal method
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	3.5	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	45	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, annealed	204	°C	ASTM D648
1.8 MPa, not annealed	104	°C	ASTM D648
1.8 MPa, not annealed	110	°C	ISO 75-2/A
8.0 MPa, not annealed	95.0	°C	ISO 75-2/C
Glass Transition Temperature ²	90.0	°C	ISO 11357-2
Melting Temperature ³	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	5.2E-5	cm/cm/°C	ISO 11359-2
Lateral	5.3E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	3.5	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			
--	1.0E+16	ohms · cm	ASTM D257
--	1.0E+11	ohms · cm	IEC 60093
Dielectric Strength			
-- ⁴	18	kV/mm	ASTM D149
--	18	kV/mm	IEC 60243-1
Dielectric Constant			
1 kHz	3.00		ASTM D150
1 MHz	3.00		ASTM D150
Dissipation Factor			
1 kHz	1.0E-3		ASTM D150
1 MHz	9.0E-4		ASTM D150
Arc Resistance	124	sec	ASTM D495
Comparative Tracking Index	125	V	IEC 60112
Injection	Nominal Value	Unit	
Drying Temperature	110 - 120	°C	
Drying Time	3.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	

Hopper Temperature	20.0 - 30.0	°C
Rear Temperature	290 - 300	°C
Middle Temperature	300 - 310	°C
Front Temperature	310 - 320	°C
Nozzle Temperature	300 - 310	°C
Processing (Melt) Temp	310 - 320	°C
Mold Temperature	140 - 160	°C
Injection Pressure	40.0 - 80.0	MPa
Injection Rate	Fast	
Holding Pressure	30.0 - 60.0	MPa
Back Pressure	0.00 - 3.00	MPa

Injection instructions

Manifold Temperature: 310 to 320°C Zone 4 Temperature: 310 to 320°C Feed Temperature: 60 to 80°C

NOTE

1. Break
2. 10°C/min
3. 10°C/min
4. Method A (short time)

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